ICU MANAGEMENT & PRACTICE

ESA2016: Who Benefits from Intensive Care?

When patients and families are increasingly questioning clinical decisions, facts are important when it comes to admitting patients to intensive care. It is vital that critical care physicians have good knowledge of the important prognostic indicators, and use them as foundations for their decisions to admit, said Saxon Ridley, from Glan Clwyd Hospital in Wales, UK, speaking at Euroanaesthesia 2016 in London in May.

When patients present, prognostication is difficult and uncertain, said Ridley. Clinical and non-clinical factors need to be taken into account. Decisions are made that are largely subjective, prone to human error and are based on probabilities that are inherently inexact.

When you work in a system with a limited number of ICU beds, then you need to focus on patients who may or may not survive depending on the interventions they receive, added Ridley, who is Past President of the UK's Intensive Care Society.

See Also: ICU Care Prior to Admission to the ICU

Ridley updated delegates on those conditions known to have poor outcomes: acute-on-chronic liver failure, haematological malignancy, chronic obstructive pulmonary disease (COPD) and obesity.

Acute-on-chronic liver failure (ACLF)
There is no established system for allocation to ICU. Patients presenting with first decompensation of alcohol-induced liver failure with infection, particularly sepsis, and/or multiple organ failure, especially renal dysfunction, have the worse ICU prognosis. ICU mortality is closely related to organ failure rather than the severity of the underlying liver disease. ACLF patients may already have sepsis or develop nosocomial infections.

Haematological malignancy
This is "not all doom and gloom" said Ridley. In Northern Europe 2 in 3 patients admitted to the ICU with haematological malignancy will leave hospital. For ICU patients with haematological malignancies noninvasive diagnostic and therapeutic strategies (especially for respiratory failure) have been developed. There have also been advances in supportive care and prevention of organ dysfunction. At ICU presentation the outcome is determined by physiological disturbance and not by the progression of the haematological malignancy. Patients with more than two organ system failures do particularly badly (68% mortality), and worse than others with similar organ failure.

Chronic obstructive pulmonary disease (COPD)
1 in 8 emergency hospital admissions is due to COPD with frequent referral to ICU, Ridley reminded delegates. Doctors need to distinguish a worsening condition that is part of a terminal decline from that in a stable patient. Doctors should beware of being too pessimistic. At referral doctors should reflect on failure to improve or compensate for the respiratory acidosis and reflect on the severity of physiological disturbance (i.e. cardiac arrest, depressed consciousness, arrhythmia, or high physiological scores). They also need to take in to account the pre-morbid factors of level of disability, poor spirometry, co-morbidities and previous recent emergency hospitalisation.

Cardiac arrest
Patients who have a cardiac arrest out of hospital still have a low survival rate, although it is slowly improving. Use of cardiopulmonary resuscitation may prolong death and suffering without adding to quality of life.

In-hospital cardiac arrests have a better outcome in the absence of other serious pathologies. Out of hospital cardiac arrests have a particularly poor outcome, especially if CPR was delayed, the initial rhythm was non-shockable, defibrillation was delayed or there was late return of spontaneous circulation. Once on the ICU, absent corneal or pupillary responses or deep coma after 24 hours are poor prognostic signs.

Morbid obesity
Obese ICU patients have a generalised loss of fitness and physiological deconditioning due to reduced mobility and co-morbidities that may include diabetes and congestive cardiac failure. Obese patients may have difficult venous access and physiological changes that make it harder to perform intentions. These can include decreased chest wall compliance and increased gastric reflux. They have higher rates of ICU morbidity - for ventilator-associated pneumonia, deep venous thromboembolism, pulmonary embolism, other cardiovascular complications and pressure sores.

Ridley noted that there are times when he has written in notes that a patient should not be admitted due to lack of physiological reserves, and should be treated compassionately.

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